The Impact of Student Teams Achievement Divisions (STAD) Learning Method on Long Jump Performance

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Article Info

Abstract

This research aims to investigate the influence of the Student Team Achievement Divisions (STAD) learning method on students' long jump performance. The STAD learning method is an approach that encourages collaboration and interaction among students in the form of teams, with a focus on both group and individual achievements. Long jump was chosen as the research context due to its involvement in complex physical and technical aspects, requiring a combination of motor skills and conceptual understanding. The research method used is an experimental method, with a "one group pretest-posttest" design. The study involves a sample of 50 male students at MTs Miftahul Ulum Pangkalan Balai. The instrument used is an assessment of long jump performance. The assessment of long jump in this research covers both the process and the outcome, including the distance achieved in the jump. Data analysis is conducted using the t-test. The results of the data analysis show that because the calculated t-value is 5.87 > the tabulated t-value of 2.00. The findings of this study indicate a significant influence of the STAD method on the improvement of long jump skills among students at MTs Miftahul Ulum Pangkalan Balai. This research provides a significant contribution to our understanding of the impact of the STAD method on students' long jump results, forming the basis for the development of more effective and sustainable learning approaches in the field of sports.

INTRODUCTION

Physical education is an integral part of the holistic development of students, encompassing not only physical fitness but also cognitive and social skills. Physical education can be globally more effective (Lynch & Soukup, 2016). Physical education is an effort with the aim of having a positive influence on the physical and mental health of every human being (Khasanah & Hariyoko, 2023). Physical education is one of the subjects applied in schools according to the latest curriculum of the Indonesian Ministry of Education and Culture (Munar et al., 2021). The fundamental concepts of physical education and effective physical education teaching models need to be mastered by teachers who intend to teach physical education (Yulingga Nanda Hanief, 2015). In the pursuit of effective teaching methodologies, educators continually explore innovative approaches to enhance learning outcomes. In the realm of education, various teaching methods exist, with one notable cooperative method Collaborative Learning focuses on using small, cooperative groups in education which helps educators improve learning in their classes (Chen, 2017). There are a great number of cooperative learning techniques available. Some cooperative learning techniques utilize student pairing, while others utilize small groups of four or five students (Sari & Susiani, 2021).

The only one is STAD (Student Teams Achievement Divisions). One such approach is the Student Teams Achievement Divisions (STAD) learning method, which emphasizes collaborative learning and individual accountability within a team structure. The Student Teams Achievement Divisions (STAD) learning method is one type of cooperative learning that emphasizes interaction among students to motivate and assist each other in mastering the material and

achieving optimal academic performance (Wulandari, 2022).

STAD technique is found to be helpful for the students academically and socially. Secondly, the technique is also proven to motivate the students to learn more (Hayatunisa, 2014). Student teams-achievement divisions (STAD) is a cooperative learning strategy in which small groups of learners with different abilities work together to achieve a shared goal (Ziziumiza et al., 2022). STAD allows students in providing opportunities to work together and help each other fellow students, students can master the lessons delivered, in the learning process students positively interdependence, each student can mutually fill each other, improve individual skills, improve group skills, increase commitment, prejudice peers, and have no resentment (Ramafrizal & Julia, 2018). As educators seek evidence-based strategies to improve specific skills, this research delves into the impact of the STAD learning method on students' long jump performance. Long jump, a multifaceted athletic skill, requires a combination of physical prowess and technical precision. By investigating the influence of the STAD method on long jump achievement, we aim to contribute valuable insights to the field of physical education.

Jumping is a fundamental movement skill in a variety of sports that needs the complex motor coordination of upper and lower limbs to obtain a good performance, such as, volleyball, basketball, ski jumping, and some ball sports in which the high velocity of muscle contractions is required. (Zhou et al., 2020). Not only is it a sport within the branch of athletics, specifically long jump, but it is also highly significant to observe the outcomes of the jumps. The long jump is a jumping movement using one foot to reach the farthest distance (Sutrisno et al., 2023). Long jumping performance is

determined primarily by the athlete's ability to attain a fast horizontal speed at the end of the approach run.(Bridgett & Linthorne, 2006).

Long jump is a type of sport in which an individual propels themselves forward by jumping off one foot to achieve the farthest possible distance. The distance of the jump is measured from the takeoff point to the first mark in the sandpit after the jump (Munasifah., 2008). Long jump is one of the most important events in track & field competitions. (El-Ashker et al., 2019). Long jump is a field event where athletes compete to cover the greatest horizontal distance possible in a single jump. It is a part of track and field athletics. In the long jump, the important factors that determine jumping distance are the horizontal velocity of the center of gravity (CG) developed in the run-up and the vertical velocity obtained during take-off (Kinomura et al., 2013). The event takes place in a designated area called the long jump pit, which consists of a runway and a sand-filled landing area. The primary goal is for the athlete to jump as far as they can from a takeoff board located at the end of the runway. Based on a cooperative method is learning that can increase student's motivation in studying and help them to reach the learning purposes. STAD emphasizes on the activity and student's interaction to know the material. They are in a group in order they can cooperate to do assignments from their teacher (Laa et al., 2019).

The student's ability in doing long jumps is not good, it looks like their techniques are wrong. For example in the beginning, students run so fast without thinking about range start. It will decrease speed and pushing their foot will pass the board. So it is invalid. When they are on the air, their pose is not right. Then on landing, the form has the wrong position. Finally, they will fall back and their range will be measured there. This problem

because there is no appropriate method used. The teacher should try to teach by using STAD. STAD is a learning method which gives an appreciation to the best student, both individually or in a group. This method will stimulate students' spirit. For this reason, I try to use the STAD method to increase students' long jumps in Mts. Miftahul Ulum Pangkalan Balai.

Many previous studies have addressed the issue of improving long jump technique in various ways or methods in athletics. Several types of teaching methods and games have been developed to enhance the learning process. Research related to teaching methods for the learning process in physical education, specifically in the athletic branch of long jump, has been conducted. One applied method is the Student Teams Achievement Divisions (STAD). Numerous studies on the application of the STAD method to enhance long jump have been successfully conducted in recent years. One such study titled "The Effect of Direct Learning and Cooperative Learning STAD Type on Long Jump Ability of Fourth-Grade Students at Inpres Tiered Elementary School Mamajang II Makassar (Bakar, 2017), found that there was an influence of the STAD cooperative learning model on the long jump ability of fourth-grade students, with an average improvement of 64.33.

Another study titled "The Influence of Cooperative Learning Model Student Teams Achievement Division (STAD) on Learning Outcomes of Inner Foot Passing in Soccer Games for Seventh-Grade Students at SMP Negeri 5 PangkalPinang" (Akbar et al., 2019). showed an effect of the STAD cooperative learning model, with only the dependent variable being different. Additionally, a study titled "Improving Long Jump Learning Outcomes through the Use of the Cooperative Learning Model Student Teams Achievement Division (STAD)"

(Rusminingsih, 2019), demonstrated that students' long jump learning outcomes could be enhanced through the implementation of the STAD cooperative learning model. The results showed an increase from an initial average of 67.93 to 73.27 after the first cycle, and further improvement to an average of 80.51 in the second cycle. The distinction in my research lies in the methodology, and it is hoped that, based on the literature review of previous studies, there will be a significant impact on my research titled "The Impact of Student Teams Achievement Divisions (STAD) Learning Method on Long Jump Performance." The similarity in this study lies in the use of the same variables, and the type of research is experimental. The only difference lies in the location and timing of the study. Based on the description above, the author presents the problem as follows: How can student long jump performance be improved using STAD at Mts. Miftahul Ulum

METHODS

This research employs a quantitative approach as the research data consists of numerical values, and the analysis involves statistical methods. The method utilized in this study is an experimental research design with One Group Pretest-Posttest Design (Noor, 2017). The sample in this study consists of 50 male students from MTs. Miftahul Ulum Pangkalan Balai., selected through purposive sampling. Purposive sampling is a technique for determining samples with specific considerations (Sugiyono, 2016). The assessment of long jump in this research covers both the process and the outcome, including the distance achieved in the jump. The process involves several stages: (1) start, (2) take off, (3) on the air, and (4) landing. The scores for both the process and the outcome of the long jump

will constitute the test scores for the students.

The description to be used in the research includes descriptive data analysis, providing an overview of the mean, standard deviation (SD), minimum and maximum values, as well as testing the normality and homogeneity of each variable. Inferential data analysis involves testing the research hypothesis with an overall T-test, using the independent samples t-test at a 95% significance level or α 0.05. The statistical data analysis is typically conducted using computer software, specifically IBM SPSS Statistics 26. SPSS (Statistical Product for Service Solutions, formerly Statistical Package for Social Sciences) is a statistical computer program capable of processing statistical data quickly and accurately (Hasyim & Listiawan, 2014).

RESULT

This research aims to evaluate the impact of the Student Teams Achievement Divisions (STAD) learning method on the long jump performance of students at Mts. Miftahul Ulum Pangkalan Balai. After conducting an experiment implementation of the STAD method significantly contributes to the improvement of students' long jump results. Experimental research is a study that seeks to explore the cause-and-effect relationship between independent and dependent variables, where the independent variable is intentionally controlled and manipulated. An experiment, or experiment research, is an activity conducted to understand a phenomenon or effect that arises as a result of a specific treatment (Abraham & Supriyati, 2022). Data collected from 50 students involved in this research show a significant increase in the average long jump results after applying the STAD method. This improvement is evident in the comparison of long jump results before

and after the intervention using the STAD method.

Table 1. Paired Samples Statistics

Paired Samples Statistics		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	69,80	50	10,45	1,48
	Posttest	73,28	50	8,64	1,22

In this output, we are presented with a summary of descriptive statistical results from the two examined samples, namely the Pre Test and Post Test scores. For the Pre Test score, the obtained average learning result or Mean is 69.80. Meanwhile, for the Post Test score, the average learning result is 73.28. The total number of respondents or students used as the research sample is 50 students. The Std. Deviation (standard deviation) for the Pre Test is 10.45, and for the Post Test, it is 8.64. Finally, the Std. Error Mean for the Pre Test is 1.48, and for the Post Test, it is 1.22. Since the average learning result on the Pre Test is 69.80 < Post Test 73.28, descriptively, there is a difference in the average long jump result between the Pre Test and Post Test. To further confirm whether this difference is indeed significant or not, we need to interpret the results of the paired sample t-test found in the "Paired Samples Test" output table.

Table 2. Paired Samples Correlations

Paired Samples Correlations		N	Correlation	Sig.
Pair 1	Pretest & Posttest	50	0,921	0,000

The above output shows the results of a correlation test, indicating the relationship between the two sets of data or the correlation between the Pre Test variable and the Post Test variable. Based on the output above, the correlation coefficient (Correlation) is found to be 0.92 with a significance value (Sig.) of 0.000. Since the Sig. the value of 0.00 is less than the probability of 0.05, it can be stated that there is a significant relationship between the Pre Test variable and the Post Test variable.

Table 3. Output Paired Sample

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Pretest - Posttest	-3,48	4,19 05 6	0,592 64	-4,67	-2,29	-5,87	49	0,00

Based on Table 3 output of the "Paired Sample Test" above, it is known that the t-value is negative, specifically -5.87. The t-value is negative because of the average Post Test learning result. In a context like this, a negative value can be considered positive, so the t-value becomes 5.87, whereas the critical t-value is 2.00. Therefore, because the calculated t-value of 5.87 > the critical t-value of 2.00, based on the decision-making criteria above, it can be concluded that H0 is rejected, and Ha is accepted. Thus, it can be concluded that there is a significant difference in the average scores between the Pre Test and Post Test, indicating the influence of the STAD method on improving long jump performance.

DISCUSSION

The advantage of the STAD learning model facilitates students' learning activities in participating in every learning activity, thus impacting the improvement of students' learning outcomes (Susila, 2022). Based on the results above, the discussion in this research is as follows: The findings obtained in this study are consistent with previous research that has applied the STAD method in the context of sports learning, particularly in long jump. For example, a study titled "The Influence of Direct Learning and Cooperative Learning STAD Type on Long Jump Ability of Fourth-Grade Students at Inpres Tiered Elementary School Mamajang II Makassar" (Bakar, 2017) revealed that the STAD method significantly improved students' achievements in long jump.When comparing these findings with recent literature, it can be concluded that the STAD method remains relevant and effective in enhancing students' long jump results. This support reinforces the positive contribution of the STAD method to sports learning, especially in the context of long jump. Based on the experimental research entitled "Cooperative Learning Jigsaw and Student Achievement Division Teams Results of Hang Style Long Jump," it is indicated that the STAD method is better, demonstrating that STAD is highly effective in improving long jump performance. (Muslimin & Ramadhan, 2017).

Previous literature studies, as described in the research titled "The Influence of Cooperative Learning Model STAD Type on Learning Outcomes of Elementary School Students" (Asmedy, 2021). highlight the effectiveness of the STAD method in improving student performance in various learning contexts. Our findings align with these studies, affirming that the implementation of the STAD method can be a valuable approach to improving students' long jump results. These results have practical implications for teachers and policymakers in designing more interactive and group-focused sports curriculum. Therefore, it is recommended that sports teachers consider integrating the STAD method into long jump lessons to enhance the effectiveness of the learning process.

CONCLUSION

The results of this study, it can be concluded that the implementation of the Student Teams Achievement Divisions (STAD) learning method has a significantly positive impact on the long jump results of students at Mts. Miftahul Ulum. The learning process, involving collaboration among students in teams, focusing on group achievements, and individual responsibility, proves to be effective in enhancing achievements in long jump. These findings align with previous research highlighting the success of the STAD method in improving student performance in various sports learning contexts. The significant improvement in long jump results after applying the STAD method positively contributes to the development of teaching strategies in sports, particularly in the context of long jump learning. As an implication of this research, it is recommended that cooperative learning approaches such as STAD become an integral part of sports curricula at various educational levels. Teachers and education policymakers can consider implementing the STAD method as an effective strategy to enhance student performance in long jump.

In conclusion, this research provides a significant contribution to our understanding of the impact of the STAD method on students' long jump results, laying the foundation for the development

of more effective and sustainable learning approaches in the field of sports. Therefore, it is very effective to use the STAD method to the eighth grade students of MTs Miftahul Ulum Pangkalan Balai.

REFERENCES

Abraham, I., & Supriyati, Y. (2022). Desain Kuasi Eksperimen Dalam Pendidikan: Literatur Review. Jurnal Ilmiah Mandala Education, 8(3), 2476–2482. https://doi.org/10.58258/jime.v8i3.3800

Akbar, R., Ulfah, W. A., & Walton, E. P. (2019). Pengaruh Model Pembelajaran Kooperatif Tipe Student Teams Achievement Division (STAD) terhadap Hasil Belajar Passing Kaki Bagian Dalam Permainan Sepak Bola Siswa Kelas VII SMP Negeri 5 Pangkalpinang. Jurnal Ilmu Pendidikan Jasmani Olahraga, Kesehatan Dan Rekreas, 2(1), 9–12. https://media.neliti.com/media/publications/315879-pengaruh-model-pembelajaran-kooperatif-t-cf4bf826.pdf

Asmedy, A. (2021). Pengaruh Model Pembelajaran Kooperatif Tipe STAD Terhadap Hasil Belajar Siswa Sekolah Dasar. Ainara Journal (Jurnal Penelitian Dan PKM Bidang Ilmu Pendidikan), 2(2), 108–113. https://doi.org/10.54371/ainj.v2i2.41

Bakar, A. (2017). Pengaruh Pembelajaran Langsung Dan Pembelajaran Kooperatif Tipe Stad Terhadap Kemampuan Lompat Jauh Murid Kelas IV SD Inpres Bertingkat Mamajang II Makassar. SPORTIVE: Journal Of Physical Education, Sport and Recreation, 1(1), 18. https://doi.org/10.26858/sportive.v1i1.5242

Bridgett, L. A., & Linthorne, N. P. (2006). Changes in long jump take-off technique with increasing run-up speed. Journal of Sports Sciences, 24(8), 889–897. https://doi.org/10.1080/02640410500298040

Chen, Y. (2017). Perceptions of EFL College Students toward Collaborative Learning. English Language Teaching, 11(2), 1. https://doi.org/10.5539/elt.v11n2p1

El-Ashker, S., Hassan, A., Taiar, R., & Tilp, M. (2019). Long jump training emphasizing plyometric exercises is more effective than traditional long jump training: A randomized controlled trial. Journal of Human Sport and Exercise, 14(1), 215–224. https://doi.org/10.14198/jhse.2019.141.18

Hasyim, M., & Listiawan, T. (2014). Penerapan Aplikasi IBM SPSS Untuk Analisis Data Bagi Pengajar Pondok Hidayatul Mubtadi'in Ngunut Tulungagung Demi Meningkatkan Kualitas Pembelajaran dan Kreativitas Karya Ilmiah Guru. J-ADIMAS (Jurnal Pengabdian Kepada Masyarakat), 2(1), 28–35.

Hayatunisa, L. (2014). Student Teams Achievement Divisions (Stad) Technique in Teaching Writing Narrative Text. Journal of English and Education, 2014(1), 17–26.

Khasanah, R. N., & Hariyoko. (2023). Development of learning media for physical education , sports , and health on basic football techniques based on articulate storyline application. 1(1), 1–6.

Kinomura, Y., Fujibayashi, N., & Zushi, K. (2013). Characteristics of the long jump take-off as the novice increases the number of steps in the approach run. Procedia Engineering, 60, 313–318.

https://doi.org/10.1016/j.proeng.201
3.07.075

Laa, N., Winata, H., & Meilani, R. I. (2019). Pengaruh Model Pembelajaran Kooperatif Tipe Student Teams Achievement Division Terhadap Hasil Belajar Passing Sepakbola. Jurnal Penjakora, 6(1), 35. https://doi.org/10.23887/penjakora.v 6i1.17641

Lynch, T., & Soukup, G. J. (2016). Physical education, "health and physical education", "physical literacy" and "health literacy": Global nomenclature confusion. Cogent Education, 3(1). https://doi.org/10.1080/2331186X.2 016.1217820

Munar, H., Aditya, C., Mudjihartono, & Budiana, D. (2021). Application of Sport Education Models in Basic Movement Skills Passing Under the Volume Ball Game. Journal of Physical Education for Secondary Schools, 1(1), 1–6.

Munasifah. (2008). Atletik Cabang Lempar. Aneka Ilmu.

Muslimin, & Ramadhan, H. P. (2017). Cooperative learning jigsaw and student achievement division teams results of hang style long jump. 4(3), 191–196.

Noor, J. (2017). Metodologi Penelitian. Kencana.

Ramafrizal, Y., & Julia, T. (2018). Kajian Model Pembelajaran Kooperatif Tipe STAD (Student Teams Achievement Division) Dalam Upaya Meningkatkan Efektifitas Proses Belajar Mengajar Akuntansi. OIKOS Jurnal Kajian Pendidikan Ekonomi Dan Ilmu Ekonomi, II. https://doi.org/10.23969/oikos.v2i2. 1049

Rusminingsih. (2019). Meningkatkan hasil belajar lompat jauh melalui penggunaan model pembelajaran kooperatif tipe Student Teams Achievement Division (STAD). Journal for Lesson and Learning Studies, 2(3), 437–443.

Sari, I. P., & Susiani, S. (2021). The Effects of Jigsaw, Student Teams Achievement Divisions (Stad), and Think-Pair-Share (Tps) Techniques in Writing Narrative Text. Journal of Educational Sciences, 5(1), 66. https://doi.org/10.31258/jes.5.1.p.66 -79

Sugiyono. (2016). Statistika Untuk Penelitian. Alfabeta.

Susila, I. W. A. (2022). Model Kooperatif Tipe Students Teams Achievement Divisions A R T I C L E I N F O. Journal of Education Action Research, 6(2), 228–234. https://dx.doi.org/10.23887/jear.v6i2 .44635

Sutrisno, Pratama, B. A., & Harmono, S. (2023). Analysis of Long Jump Run Up Distance in MTSN 8 Jombang's Students. International Journal of Research and Review, 10(1), 204–209. https://doi.org/10.52403/ijrr.202301 22

Wulandari, I. (2022). Model Pembelajaran Kooperatif Tipe STAD (Student Teams Achievement Division) dalam Pembelajaran MI. 4(1).

Yulingga Nanda Hanief. (2015). Membentuk Gerak Dasar Pada Siswa Sekolah Dasar Melalui Permainan Tradisional. Jurnal Sportif, 1(1), 60–73.

Zhou, H., Yu, P., Thirupathi, A., & Liang, M. (2020). How to improve the standing long jump performance? A mini narrative review. Applied Bionics and Biomechanics, 2020. https://doi.org/10.1155/2020/882903 6

Ziziumiza, S., Bungsu, J., & Shahrill, M. (2022). International Journal of

Pedagogy and Teacher Education The Effectiveness of Student Teams Achievement Division Cooperative Learning in Improving Mathematics Skills in VTE Engineering Students. 6(2), 52–60.